Contents Volume 64 2000

Volume 64 No. 1 2000

Regular papers

Electron acceptors in isolated intact spinach chloroplasts act hierarchically to prevent over-reduction and competition for electrons
J.E. Backhausen, C. Kitzmann, P. Horton, R. Scheibe **1–13**

Ozone tolerance and antioxidant enzyme activity in soybean cultivars
T. Chernikova, J.M. Robinson, E.H. Lee, C.L. Mulchi **15–26**

Composition and optical properties of reaction centre core complexes from the green sulfur bacteria *Prosthecochloris aestuarii* and *Chlorobium tepidum*
H.P. Permentier, K.A. Schmidt, M. Kobayashi, M. Akiyama, C. Hager-Braun, S. Neerken, M. Miller, J. Amesz **27–39**

Characterization of a symmetrized mutant RC with 42 residues from the Q_A site replacing residues in the Q_B site
J. Li, W.J. Coleman, D.C. Youvan, M.R. Gunner **41–52**

Photoinhibition of Photosystem I in field-grown barley (*Hordeum vulgare* L.): Induction, recovery and acclimation
H.B. Teicher, B.L. Møller, H.V. Scheller **53–61**

Localization of NADPH-protochlorophyllide reductase in plastids of barley at different greening stages
X. Barthélemy, G. Bouvier, A. Radunz, S. Docquier, G.H. Schmid, F. Franck **63–76**

Tolerance of a field grown soybean cultivar to elevated ozone level is concurrent with higher leaflet ascorbic acid level, higher ascorbate-dehydroascorbate redox status, and long term photosynthetic productivity
J.M. Robinson, S.J. Britz **77–87**

Acclimation to temperature of the response of photosynthesis to increased carbon dioxide concentration in *Taraxacum officinale*
J.A. Bunce **89–94**

Antisense suppression of violaxanthin de-epoxidase in tobacco does not affect plant performance in controlled growth conditions
S.-H. Chang, R.C. Bugos, W.-H. Sun, H.Y. Yamamoto **95–103**

Book review **105–106**

Volume 64 Nos. 2–3 2000

SPECIAL ISSUE: TETRAPYRROLE PHOTORECEPTORS IN PLANTS AND ALGAE

GUEST EDITORS: ROBERTO BASSI AND GIANFELICE CINQUE

Introduction **iii–iv**

Photoreceptors

Evidence against the involvement of phytochrome in UVB-induced inhibition of stem growth in green tomato plants
L. Bertram, B. Lercari **107–117**

Pigment Synthesis and Turnover

***Cab* gene expression in bleached leaves of carotenoid-deficient maize**
N. La Rocca, R. Barbato, F. dalla Vecchia, N. Rascio **119–126**

ADP/ATP and protein phosphorylation dependence of phototransformable protochlorophyllide in isolated etioplast membranes
S. Kovacheva, M. Ryberg, C. Sundqvist **127–136**

Chlorophyll breakdown in oilseed rape
S. Hörtensteiner, B. Kräutler **137–146**

NADPH-protochlorophyllide oxidoreductase in cucumber is encoded by a single gene and its expression is transcriptionally enhanced by illumination
N. Fusada, T. Masuda, H. Kuroda, T. Shiraishi, H. Shimada, H. Ohta, K.-i. Takamiya **147–154**

Structure and Function of Reaction Centre Complexes

Solubilization of green plant thylakoid membranes with *n*-dodecyl-α,D-maltoside. Implications for the structural organization of the Photosystem II, Photosystem I, ATP synthase and cytochrome b_6f complexes
H. van Roon, J.F.L. van Breemen, F.L. de Weerd, J.P. Dekker, E.J. Boekema **155–166**

Crystallization of dimers of the manganese-stabilizing protein of Photosystem II
R. Anati, N. Adir **167–177**

Functional characterization of the PS II–LHC II supercomplex isolated by a direct method from spinach thylakoid membranes
S. Eshaghi, E. Turcsányi, I. Vass, J. Nugent, B. Andersson, J. Barber **179–187**

Selective replacement of the active and inactive pheophytin in reaction centres of Photosystem II by 13^1-deoxo-13^1-hydroxy-pheophytin *a* and comparison of their 6 K absorption spectra
M. Germano, A.Ya. Shkuropatov, H. Permentier, R.A. Khatypov, V.A. Shuvalov, A.J. Hoff, H.J. Van Gorkom **189–198**

Excitation energy transfer in aggregates of Photosystem I and Photosystem II of the cyanobacterium *Synechocystis* sp. PCC 6803: Can assembly of the pigment-protein complexes control the extent of spillover?
S. Federman, S. Malkin, A. Scherz **199–207**

Regulation of Photosystem II core protein phosphorylation at the substrate level: Light induces exposure of the CP43 chlorophyll *a* protein complex to thylakoid protein kinase(s)
M. Vink, H. Zer, R.G. Herrmann, B. Andersson, I. Ohad **209–219**

Light-Harvesting Proteins

The Soret absorption properties of carotenoids and chlorophylls in antenna complexes of higher plants
R. Croce, G. Cinque, A.R. Holzwarth, R. Bassi **221–231**

Absorption spectra of chlorophyll *a* and *b* in Lhcb protein environment
G. Cinque, R. Croce, R. Bassi **233–242**

Lhc proteins and the regulation of photosynthetic light harvesting function by xanthophylls
R. Bassi, S. Caffarri **243–256**

Environmental Stresses

UV-B induced differential transcription of *psbD* genes encoding the D2 protein of Photosystem II in the cyanobacterium *Synechocystis* 6803
A. Viczián, Z. Máté, F. Nagy, I. Vass **257–266**

Comparative analysis of the low molecular weight and enzymatic antioxidants in response to the phototoxicity of accumulating uroporphyrin and protochlorophyllide in barley leaves treated with cesium chloride
N.V. Shalygo, H.-P. Mock, N.G. Averina, B. Grimm **267–276**

Contents Volume 64 **277–279**

Author index Volume 64 **280**